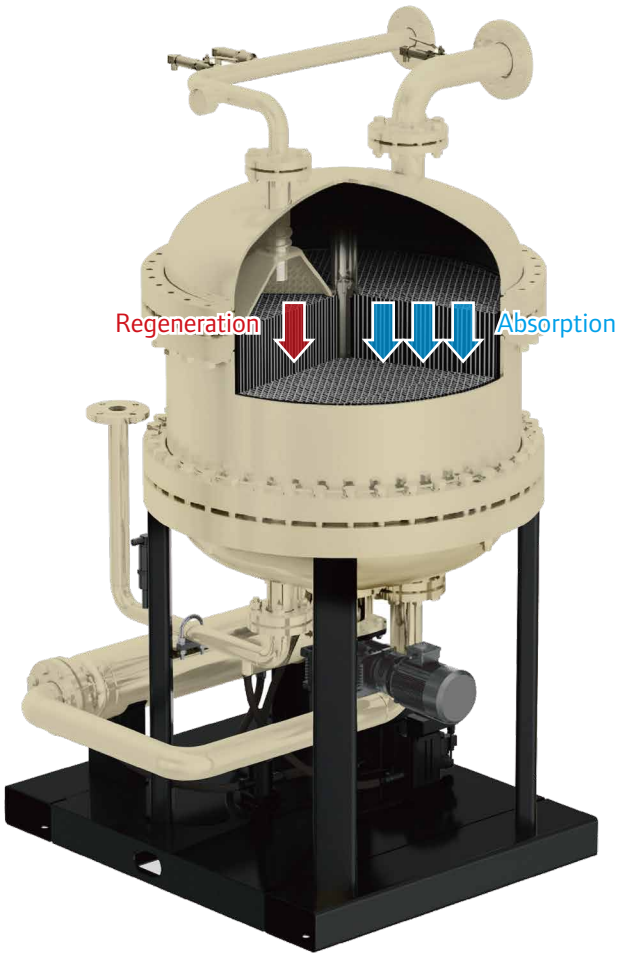
Ingersoll Rand

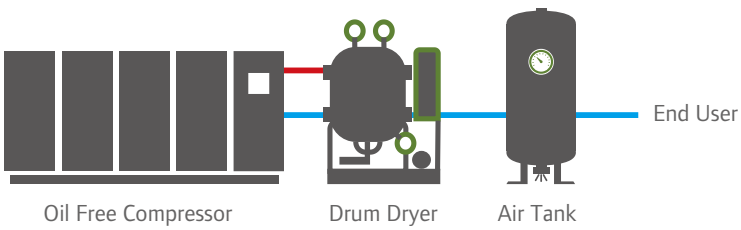
IRDR Drum Desiccant Dryer

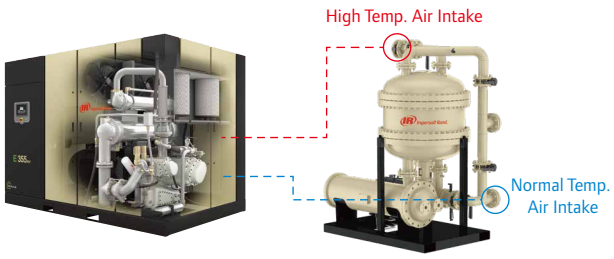
Working principle

The wheel was invented in 1950 and has been used as a mature technology in various areas requiring normal pressure drying, such as new wind systems, room dehumidification and purification. IRDR is to change the design of the rotating wheel of normal pressure to be suitable for the pressure state. The wheel is a core spare part of the absorbent, so that when compressed air passes, moisture stays on the drum. A cellular structure similar to that of an engine exhaust gas catalytic device is adopted to ensure maximum adsorption area. The surface uses high-performance special composite material, dehumidification ability is much better than traditional alumina. The wheel, which is seeable to the naked eye, has a very low pressure drop.

Different from the traditional two-tower constant adsorption dryer, IRDR zero purge drum dryer has a single tower design, a honeycomb structure, and a corrugated special high-performance composite adsorbent. Most of the internal area is used to dry compressed air, and a small part is used for compression heat regeneration, which works continuously and stably.







Dual air inlet from compressor; No filter required.

Application

High quality and clean compressed air plays a core role in the production process. IRDR Drum dryer can eliminate as much moisture in the compressed air as possible on the premise of ensuring reliability, to ensure users can avoid the pollution of final products caused by compressed air, enhance yield rate.

At the same time, dry and clean compressed air can prolong the maintenance cycle and service life of pneumatic control valves and other gas equipment, realize the high-efficiency productivity and low-carbon emission of the plant, and reduce the operation cost. Compared with the traditional switching operation, IRDR Drum dryer can ensure the continuous drying of compressed air. The unique design allows customers to reduce the trouble of wearing parts in using, improve production efficiency and realize energy-saving visualization in the process of use.

Zero Energy Consumption Design

- Use oil-free compressor residual heat
- Regeneration process, zero gas consumption and micro power consumption (0.12kW)
- Air flow is smooth and pressure loss is small

Continuous and Efficient Purification

- No switching required, dew point stability
- Single towers have the smallest footprint and fewer components
- Hard substrates, composite silicones, cellular structures, and high-efficiency adsorption
- External separator to improve water separation

No Consumables

- No alumina molecular sieve, no dust, environmental protection
- No electric pneumatic switch valve, no consumables
- Low speed swing, low noise

IRDR

Model	Capacity CFM or m^3/min	Rated flowpressure Mpa	Ambient temperature °C	inlet temperature °C	High Temp. inlet temperature °C	heater kW	Package Weight kg	Width cm	Depth cm	Height cm
Air Cooled										
IRDR5-8.5	5.1	0.85	1-40	≤38	≥110	/	700	110	130	200
IRDR10-7	9.6	0.70	1-40	≤38	≥110	/	700	110	130	200
IRDR16-7	16.1	0.70	1-40	≤38	≥110	/	950	125	160	230
IRDR20-10	20.3	1.00	1-40	≤38	≥110	/	800	120	130	200
IRDR25-8.5	24.6	0.85	1-40	≤38	≥110	/	1000	130	160	230
IRDR32-10	31.8	1.05	1-40	≤38	≥110	/	1050	135	160	230
IRDR35-8.5	35.0	0.85	1-40	≤38	≥110	/	1100	140	160	230
IRDR41-10	40.6	1.05	1-40	≤38	≥110	/	1100	140	160	230
IRDR45-7.5	45.2	0.75	1-40	≤38	≥110	/	1400	160	190	240
IRDR51-10	50.9	1.07	1-40	≤38	≥110	/	1400	160	190	240
Water Cooled										
IRDR5W-8.5	5.2	0.85	1-40	≤38	≥110	/	650	80	120	200
IRDR10W-7	9.6	0.70	1-40	≤38	≥110	/	650	80	120	200
IRDR16W-7	16.1	0.70	1-40	≤38	≥110	/	800	90	130	210
IRDR20W-10	20.3	1.00	1-40	≤38	≥110	/	650	80	130	200
IRDR25W-8.5	24.6	0.85	1-40	≤38	≥110	/	800	90	140	210
IRDR32W-10	31.8	1.05	1-40	≤38	≥110	/	850	90	150	220
IRDR35W-8.5	35.1	0.85	1-40	≤38	≥110	/	900	90	160	220
IRDR41W-10	41.1	1.05	1-40	≤38	≥110	/	900	90	160	220
IRDR45W-7.5	45.2	0.75	1-40	≤38	≥110	/	1600	150	200	230
IRDR51W-10	50.9	1.07	1-40	≤38	≥110	/	1600	150	200	230
IRDR54W-7.5	53.3	0.75	1-40	≤38	≥110	/	1600	150	200	230
IRDR60W-7.5	62.1	0.75	1-40	≤38	≥110	/	1700	150	200	250
IRDR65W-8.5	65.0	0.85	1-40	≤38	≥110	/	1800	150	190	250
IRDR70W-8.5	72.5	0.85	1-40	≤38	≥110	/	1800	150	190	250
IRDR80W-8.5	80.1	0.85	1-40	≤38	≥110	/	1900	150	200	250
IRDR90W*	90	0.7	1-40	≤38	≥110	/	2200	160	210	280
IRDR100W*	100	0.7	1-40	≤38	≥110	/	2200	160	210	280
IRDR125W*	125	0.7	1-40	≤38	≥110	/	2300	160	210	280
IRDR150W*	150	0.7	1-40	≤38	≥110	/	3000	175	240	300
IRDR200W*	200	0.7	1-40	≤38	≥110	/	4000	210	260	310
IRDR250W*	250	0.7	1-40	≤38	≥110	/	4800	240	280	320
IRDR300W*	300	0.7	1-40	≤38	≥110	/	5400	260	310	330

* The IRDR90-300 products are only listd reference data under 0.7Mpa. For detailed selection parameters, please consult with Ingersoll Rand sales.

Operating conditions

- Standard Operating Pressure: 0.7Mpa
- Temperature air inlet: ≤ 38°C
- High temperature air inlet: ≥ 110°C
- Ambient temperature:1-40°C
- Power supply: AC380V / 3P / 50Hz
- Cooling water inlet temperature: ≤32°C

Standard configuration

- Variable frequency control
- Zero purge drain valve
- PLC control, color touch screen
- Remote control

Optional configuration

- Temperature air inlet: ≥ 90°C
- Electric heater
- Only one high temperature air inlet
- Remote transmission
- Stainless steel pipe
- Dew Point Display Module

IRDR-E

Model	Capacity CFM or m^3/min	Rated flowpressure Mpa	Ambient temperature °C	inlet temperature °C	High Temp. inlet temperature °C	heater kW	Package Weight kg	Width cm	Depth cm	Height cm
Air Cooled										
IRDR5-8.5E	5.1	0.85	1-40	≤38	≥110	4	750	110	130	200
IRDR10-7E	9.6	0.70	1-40	≤38	≥110	4	750	110	130	200
IRDR16-7E	16.1	0.70	1-40	≤38	≥110	4	1000	125	160	230
IRDR20-10E	20.3	1.00	1-40	≤38	≥110	4	850	120	130	200
IRDR25-10E	24.9	1.00	1-40	≤38	≥110	4	1050	130	160	230
IRDR32-10E	31.8	1.05	1-40	≤38	≥110	4	1100	135	160	230
IRDR35-8.5E	35.0	0.85	1-40	≤38	≥110	4	1150	140	160	230
IRDR41-10E	40.6	1.05	1-40	≤38	≥110	4	1150	140	160	230
IRDR45-7.5E	45.2	0.75	1-40	≤38	≥110	9	1500	160	190	240
IRDR51-10E	50.9	1.07	1-40	≤38	≥110	9	1500	160	190	240
Water Cooled										
IRDR5W-8.5E	5.2	0.85	1-40	≤38	≥110	4	700	110	120	200
IRDR10W-7E	9.6	0.70	1-40	≤38	≥110	4	700	110	120	200
IRDR16W-7E	16.1	0.70	1-40	≤38	≥110	4	850	120	130	210
IRDR20W-10E	20.3	1.00	1-40	≤38	≥110	4	700	110	130	200
IRDR25W-10E	24.9	1.00	1-40	≤38	≥110	4	850	120	140	210
IRDR32W-10E	31.8	1.05	1-40	≤38	≥110	4	900	120	150	220
IRDR35W-8.5E	35.1	0.85	1-40	≤38	≥110	4	950	120	160	220
IRDR41W-10E	41.1	1.05	1-40	≤38	≥110	4	950	120	160	220
IRDR45W-7.5E	45.2	0.75	1-40	≤38	≥110	9	1700	150	200	230
IRDR51W-10E	50.9	1.07	1-40	≤38	≥110	9	1700	150	200	230
IRDR54W-7.5E	53.3	0.75	1-40	≤38	≥110	9	1700	150	200	230
IRDR60W-7.5E	62.1	0.75	1-40	≤38	≥110	15	1800	150	200	250
IRDR65W-8.5E	65.0	0.85	1-40	≤38	≥110	15	1900	150	190	250
IRDR70W-8.5E	72.5	0.85	1-40	≤38	≥110	15	1900	150	190	250
IRDR80W-8.5E	80.1	0.85	1-40	≤38	≥110	15	2000	150	200	250
IRDR90WE*	90	0.7	1-40	≤38	≥110	22	2300	160	210	280
IRDR100WE*	100	0.7	1-40	≤38	≥110	22	2300	160	210	280
IRDR125WE*	125	0.7	1-40	≤38	≥110	27	2400	160	210	280
IRDR150WE*	150	0.7	1-40	≤38	≥110	36	3100	175	240	300
IRDR200WE*	200	0.7	1-40	≤38	≥110	45	4200	210	260	310
IRDR250WE*	250	0.7	1-40	≤38	≥110	56	5000	240	280	320
IRDR300WE*	300	0.7	1-40	≤38	≥110	76	5600	260	310	330

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Operating conditions

- Standard Operating Pressure: 0.7Mpa
- Temperature air inlet: ≤ 38°C
- High temperature air inlet: ≥ 110°C
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Standard configuration

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Optional configuration

- Temperature air inlet: ≥ 90°C
- Electric heater
- Only one high temperature air inlet
- Remote transmission
- Stainless steel pipe
- Dew Point Display Module

Ingersoll Rand Inc. (NYSE:IR), driven by an entrepreneurial spirit and ownership mindset, is dedicated to Making Life Better for our employees, customers, shareholders, and planet. Customers lean on us for exceptional performance and durability in mission-critical flow creation and industrial solutions. Supported by over 80+ respected brands, our products and services excel in very complex and harsh conditions. Our employees develop customers for life through their daily commitment to expertise, productivity, and efficiency. For more information, visit www.IRCO.com.

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